

Enhancement, Demonstration, and Validation of the Wideband Instrument for Snow Measurements: An 8-40 GHz Wideband Instrument for Snow Measurements (WISM)

Completed Technology Project (2014 - 2017)



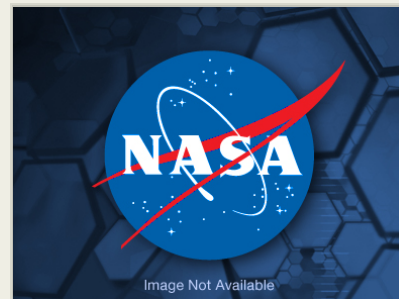
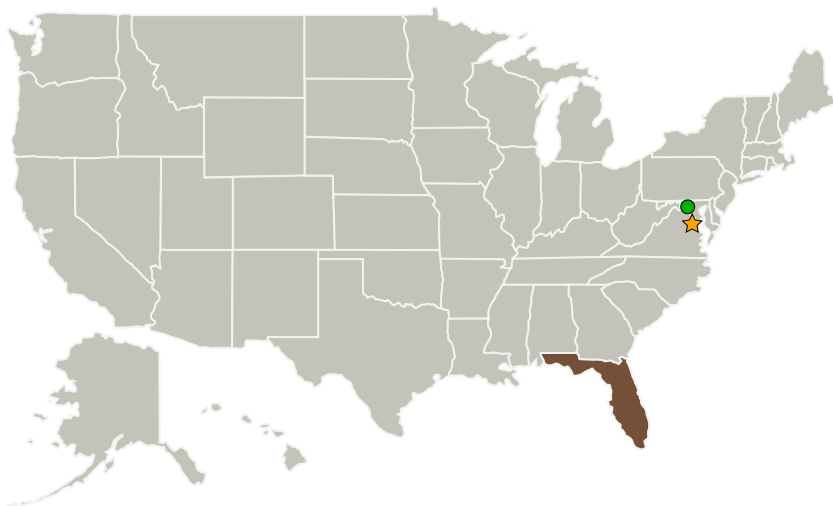
Project Introduction

The Enhancement, Demonstration and Validation of the Wideband Instrument for Snow Measurements project has three key technical objectives. The first is to design, build, and test 8-40 GHz wideband fixed beam feed for an offset reflector. The second objective is to design, build and test multi-function instrument to support SAR and radiometry. The third technical objective is to improve Snow Water Equivalent (SWE) measurement from space by developing new algorithms exploiting wideband antenna/instrument technology. Advance the utility of a wideband active and passive instrument (8-40 GHz) to support the snow science community. Improve snow measurements through advanced calibration and expanded frequency of active and passive sensors. Demonstrate science utility through airborne retrievals of snow water equivalent (SWE). Advance the technology readiness of broadband current sheet array (CSA) antenna technology for spaceflight applications

Anticipated Benefits

N/A

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
★ NASA Headquarters(HQ)	Lead Organization	NASA Center	Washington, District of Columbia
● Goddard Space Flight Center(GSFC)	Supporting Organization	NASA Center	Greenbelt, Maryland
Harris Corporation	Supporting Organization	Industry	

Primary U.S. Work Locations

Florida

Organizational Responsibility

Responsible Mission Directorate:

Science Mission Directorate (SMD)

Lead Center / Facility:

NASA Headquarters (HQ)

Responsible Program:

Earth Science

Project Management

Program Director:

George J Komar

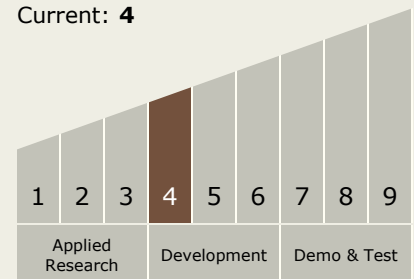
Principal Investigator:

Tim Durham

Technology Maturity (TRL)

Start: 4

Current: 4



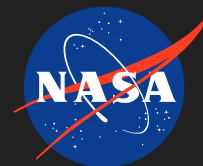
Technology Areas

Primary:

Continued on following page.

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Technology Areas (cont.)

- TX08 Sensors and Instruments
 - └ TX08.1 Remote Sensing Instruments/Sensors
 - └ TX08.1.4 Microwave, Millimeter-, and Submillimeter-Waves

Target Destination

Earth